APM: Do not edit any part of the Work Item Title.

WORK ITEM 1: Propellers, Remove, Inspect, and Reinstall

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to remove, inspect, and reinstall port and starboard propellers.

1.2 Government-furnished property.

APM: Validate all GFP data. If the Spec Package's Consolidated List of GFP is changed, ensure it is changed in the source WI and GFP style is applied.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST ($/UNIT)
N	** Propeller, Marine (Port)	NSN: 2010-01-463-9096	1 ea.	2,747.28
N	** Propeller, Marine (Stbd)	NSN: 2010-01-463-9101	1 ea.	2,896.79

***Government-loaned property, which shall be returned to the vessel upon completion of the availability.**
****New or refurbished equipment that the Government may provide for installation in place of existing equipment.**
*****Government-furnished property, which is to be supplied by either the vessel or the C4IT Service Center.**

2. REFERENCES

APM: If adding/deleting/editing a WI's Reference, change the same ref. in the Spec Pkg.'s Cons. List of Refs. and send feedback to the WI's developer.

COAST GUARD DRAWINGS

Coast Guard Drawing 47B-MLB 243-010, Rev U, Propulsion Shafting Bearings and Seals

COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 3359, SWBS 241-541, Mar 2007, Manufacturer's Information Book - SWBS Group(s) 241-541, SWBS 245, Section A, Propellers, MY-T4

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2014, General Requirements

OTHER REFERENCES

International Standard For Organization (ISO) 484/2, 1981, Shipbuilding - Ship Screw Propeller - Manufacturing tolerances - Part 2: Propellers of Diameter Between 0.80 and 2.50m, Inclusive

MIL-PRF-16173, Rev E, Corrosion Preventive Compound, Solvent Cutback, Cold-Application

3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures - general. The Contractor shall furnish and install all protective coverings to seal off and protect all non-affected vessel's components, equipment, and spaces in the vicinity of the work area against contamination during the performance of work. Upon completion of work, the Contractor shall remove all installed protective measures, inspect for the presence of contamination, and return all contaminated equipment, components, and spaces to original condition of cleanliness.

3.1.4 Interferences. The Contractor shall handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

3.2 Pre-removal requirements. The Contractor shall accomplish the following prior to removing the propellers:

- Before removing each propeller or propeller nut, fit a shore from the floor of the dock to one propeller blade near the root, to prevent shock transmission to reduction gear, if applicable.
- Protect propeller blade edges and blade roots with suitable covers, at all times until reinstallation, to prevent damage.

3.3 Work to be accomplished. The Contractor shall remove the port and starboard propellers in accordance with SFLC Std Spec 0000, TP 3359 and Coast Guard Drawing 47B-MLB 243-010.

NOTE

If it becomes necessary to apply heat to facilitate propeller removal, ensure that the hub temperature never exceeds 500 degrees Fahrenheit. In addition, ensure that gland, fill and vent plugs are removed, and the adjacent shafting and canvas under the blade edge guards are protected from flame impingement.

3.4 Inspection. The Contractor shall visually inspect the propeller for any damage, cracks, and other defects. Examine and record the suction and pressure face thickness, blade tip profiles, leading and trailing edges, contours, track, width, diameter, taper, pitch, and keyway of the propeller in accordance with ISO 484/2. Submit a CFR.

3.5 Polishing. The Contractor shall polish the propeller to a uniform 63 micro-inch RMS finish.

3.6 Propeller hub fitting check. In the presence of the COR and with the key in place, the Contractor shall carefully check the fit of the propeller hub bore to the shaft taper by applying bluing compound to the shaft taper.

3.6.1 Obtain a uniform fit of 80 percent contact over the taper, with a slightly heavier fit on the larger end. Do not heat the shaft taper to compensate for a poor fit.

CAUTION

Do not machine the shaft taper.

3.6.2 If the propeller fit is less than 80 percent, hand grind/stone the propeller hub bore to achieve the required fit.

3.6.3 Location inscription. When 80 percent fit has been obtained, make a small inscription on the shaft to mark the propeller location. Use this mark as a reference in final assembly.

3.7 Propeller installation. The Contractor shall install the port and starboard propellers in accordance with SFLC Std Spec 0000, TP 3359 and Coast Guard Drawing 47B-MLB 243-010.

3.7.1 Cleaning. Prior to final assembly the Contractor shall ensure the propeller bore and shaft taper surfaces are clean and free of bluing, lubricants, dirt, foreign particles, or any other substance, which would hinder moving the propeller along the taper. Install the propeller with dry metal-to-metal contact to obtain the maximum frictional force for torque transmission.

3.7.2 Assembly. With the propeller installed on the taper in the same position as when fitted, the Contractor shall install the propeller nut and drive up the propeller until it is advanced forward about 1/16" beyond the inscribed mark as specified in 3..6.3 (Location inscription). Lock the nut in place with an appropriate locking device Torque to 250-300 ft-lbs.

CAUTION

It is prohibited to use grease, oil, or other substances on the taper to help drive the propeller.

Do not heat the propeller hub, to compensate for a poor fit on the shaft taper.

3.8 Government's right for changing out propeller. The Contractor shall be aware that the Government reserves the right to furnish a new propeller for installation in place of the existing propeller. If the Government exercises this right, the Contractor shall turn over the removed propeller to the Coast Guard PA as an MTI item.

4. NOTES

4.1 Propeller details. 28" diameter x 32" pitch, 4 blades